



## UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,879	08/18/2006	Tadashi Ogasawara	12054-0068	3809
22502	7590	11/06/2009	EXAMINER	
CLARK & BRODY			RIPA, BRYAN D	
1090 VERMONT AVENUE, NW			ART UNIT	PAPER NUMBER
SUITE 250			1795	
WASHINGTON, DC 20005				
MAIL DATE		DELIVERY MODE		
11/06/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,879	<b>Applicant(s)</b> OGASAWARA ET AL.
	<b>Examiner</b> BRYAN D. RIPA	<b>Art Unit</b> 1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.  
 2a) This action is FINAL.      2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 1 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 18 August 2006 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date 8/18/06; 9/24/07
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Ginatta (U.S. Pat. No. 6,074,545) (hereinafter referred to as "GINATTA").

Regarding claim 1, GINATTA teaches a method of producing Ti or Ti alloys through reduction by Ca (see generally col. 3 lines 41-51 teaching the method of producing Ti through a reaction of Ti with Ca in the electrolyte that results in Ca and Ti ions being reduced at the cathode), comprising:

- a reduction electrolysis step which is consisted of holding a molten salt in a reactor cell to perform electrolysis in the molten salt in the reactor cell (see col.

11 lines 25-30 teaching the electrolysis being conducted in a molten salt electrolyte; see also figure 2 showing the molten salt electrolyte 22 contained in a reactor cell where the electrolysis occurs), the molten salt containing CaCl<sub>2</sub> and having Ca being dissolved in the molten salt (see col. 13 lines 39-42 teaching the molten salt electrolyte having CaCl<sub>2</sub> with the Ca being dissolved and available to react with the TiCl<sub>4</sub>) and of generating Ti or the Ti alloy in the molten salt so as to react with Ca generated on the cathode electrode side by the electrolysis (see col. 14 lines 35-38 teaching the co-deposition of Ti and Ca at the cathode where the Ca is further reacted with the TiCl<sub>4</sub> because it quickly dissolves into the molten salt electrolyte); and

- a Ti separation step of separating Ti or the Ti alloy from the molten salt in the reactor cell or outside the reactor cell (see col. 13 lines 51-53 teaching the growth of the Ti metal ingot which would then be removed in order to allow for the further processing of the Ti metal or alloy produced).

### ***Double Patenting***

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in

Art Unit: 1795

scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Claim 1 is provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 11 of copending Application No. 10/589,949. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/575,225 (hereinafter referred to as "the '225 application") based on the most recent

amended claims filed on December 19, 2008. Although the conflicting claims are not identical, they are not patentably distinct from each other because all of the features of the present claims are present within the claims of the '225 application.

More specifically, the '225 application claims a method for producing Ti or a Ti alloy through reduction by Ca where a reduction electrolysis step occurs in a molten salt contained in a reaction vessel wherein the molten salt comprises  $\text{CaCl}_2$  and where Ti or Ti alloy is produced through reaction of the Ca with  $\text{TiCl}_4$  wherein Ca would inherently be formed at the cathode during electrolysis (see GINATTA above) and then followed by a separation step which removes the Ti or Ti alloy from the molten salt (see claim 1).

4. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 4, 12 and 13 of copending Application No. 11/576,887 (hereinafter referred to as "the '887 application"). Although the conflicting claims are not identical, they are not patentably distinct from each other because all of the features of the present claims are present within the claims of the '887 application.

More specifically, the '887 application claims a method for producing Ti or a Ti alloy through reduction by Ca where a reduction electrolysis step occurs in a molten salt contained in a reaction vessel wherein the molten salt comprises  $\text{CaCl}_2$  and where Ti or Ti alloy is produced through reaction of the Ca with  $\text{TiCl}_4$  wherein Ca would inherently be formed at the cathode during electrolysis (see GINATTA above) and then followed

Art Unit: 1795

by a separation step which removes the Ti or Ti alloy from the molten salt (see claims 1, 3, 4, 12 and 13).

5. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 3 and 8 of copending Application No. 11/576,891 (hereinafter referred to as "the '891 application"). Although the conflicting claims are not identical, they are not patentably distinct from each other because all of the features of the present claims are present within the claims of the '891 application.

More specifically, the '891 application claims a method for producing Ti or a Ti alloy through reduction by Ca where a reduction electrolysis step occurs in a molten salt contained in a reaction vessel wherein the molten salt comprises  $\text{CaCl}_2$  and where Ti or Ti alloy is produced through reaction of the Ca with  $\text{TiCl}_4$  wherein Ca would inherently be formed at the cathode during electrolysis (see GINATTA above) and then followed by a separation step which removes the Ti or Ti alloy from the molten salt (see claims 1, 2, 3 and 8).

6. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 6 and 10 of copending Application No. 11/665,976 (hereinafter referred to as "the '976 application"). Although the conflicting claims are not identical, they are not patentably distinct from each other

Art Unit: 1795

because all of the features of the present claims are present within the claims of the '976 application.

More specifically, the '976 application claims a method for producing Ti or a Ti alloy through reduction by Ca where a reduction electrolysis step occurs in a molten salt contained in a reaction vessel wherein the molten salt comprises  $\text{CaCl}_2$  and where Ti or Ti alloy is produced through reaction of the Ca with  $\text{TiCl}_4$  wherein Ca would inherently be formed at the cathode during electrolysis (see GINATTA above) and then followed by a separation step which removes the Ti or Ti alloy from the molten salt (see claims 6 and 10).

7. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3 and 6 of copending Application No. 11/887,511 (hereinafter referred to as "the '511 application"). Although the conflicting claims are not identical, they are not patentably distinct from each other because all of the features of the present claims are present within the claims of the '511 application.

More specifically, the '511 application claims a method for producing Ti or a Ti alloy through reduction by Ca where a reduction electrolysis step occurs in a molten salt contained in a reaction vessel wherein the molten salt comprises  $\text{CaCl}_2$  and where Ti or Ti alloy is produced through reaction of the Ca with  $\text{TiCl}_4$  wherein Ca would inherently be formed at the cathode during electrolysis (see GINATTA above) and then followed

Art Unit: 1795

by a separation step which removes the Ti or Ti alloy from the molten salt (see claims 1, 3 and 6).

8. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 8 and 13 of copending Application No. 11/991,072 (hereinafter referred to as "the '072 application"). Although the conflicting claims are not identical, they are not patentably distinct from each other because all of the features of the present claims are present within the claims of the '072 application.

More specifically, the '072 application claims a method for producing Ti or a Ti alloy through reduction by Ca where a reduction electrolysis step occurs in a molten salt contained in a reaction vessel wherein the molten salt comprises  $\text{CaCl}_2$  and where Ti or Ti alloy is produced through reaction of the Ca with  $\text{TiCl}_4$  wherein Ca would inherently be formed at the cathode during electrolysis (see GINATTA above) and then followed by a separation step which removes the Ti or Ti alloy from the molten salt (see claims 8 and 13).

9. Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 13 of copending Application No. 12/224,843 (hereinafter referred to as "the '843 application"). Although the conflicting claims are not identical, they are not patentably distinct from each other because all of the features of the present claims are present within the claims of the '843 application.

More specifically, the '843 application claims a method for producing Ti or a Ti alloy through reduction by Ca where a reduction electrolysis step occurs in a molten salt contained in a reaction vessel wherein the molten salt comprises CaCl<sub>2</sub> and where Ti or Ti alloy is produced through reaction of the Ca with TiCl<sub>4</sub> wherein Ca would inherently be formed at the cathode during electrolysis (see GINATTA above) and then followed by a separation step which removes the Ti or Ti alloy from the molten salt (see claim 13).

Please note, the double patenting rejections made in sections 4-9 are provisional obviousness-type double patenting rejections because the conflicting claims have not in fact been patented.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRYAN D. RIPA whose telephone number is 571-270-7875. The examiner can normally be reached on Monday to Friday, 9:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry D Wilkins, III/  
Primary Examiner, Art Unit 1795

/B. D. R./  
Examiner, Art Unit 1795